



June 2008

Society of Broadcast Engineers Newsletter Chapter 24 Madison, Wisconsin



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Next Meeting

**Wednesday, June 11
Annual Chapter 24
Picnic**

The Chapter will supply burgers and brats, condiments, buns, plates, cups and utensils. The grill will be started at 5 p.m. Bring a dish to pass, an alternate entrée if desired and your preferred beverage (we have an alcohol permit).

Please sign-up on the chapter Web site, www.sbe24.org.

There is a playground for the kids, and we have an amplified music permit for the evening's music, courtesy of Kevin "DJ" Ruppert.

Come for the food and company, stay for the relaxing atmosphere!

Picnic, 5-9 p.m.

Badger Prairie Park, Shelter #1
Verona

(See map page 4)

No park admission required.

There will be a brief business meeting around 7 p.m. to introduce our newly elected officers



Coming Up

Tuesday, July 15: Loudspeakers, Part 2

Wednesday, Aug. 13: Wisconsin Public Radio Tour

Thursday, Sept. 11: Trends in Nuclear Energy

Testing, Testing ...

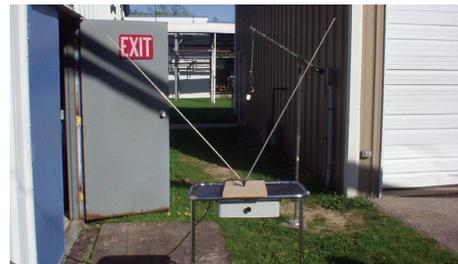
>>>By Tom Weeden
Chief Engineer, WMTV

DTV converter box tests at WMTV

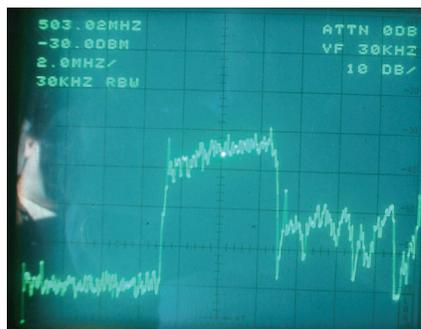
Here are some observations on quick, unscientific tests comparing various DTV converter boxes purchased locally in Madison. WMTV engineers brought in three different brands of converters that were connected to a common antenna along with a spectrum analyzer.



Receiver Test Bed



Antenna Under Test



WMTV-DT received signal


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**Meeting Minutes**

May 2008

Chapters 24 of the Society of Broadcast Engineers met on May 14, 2008 at the studio of Clear Channel Radio in Madison. There were 16 members present, of which 14 were certified. There were also three guests present.

Chairman Dennis Baldrige called the meeting to order shortly after 7 p.m. Steve Paugh made the motion to accept the minutes from the April meeting, with Mike Kulis seconding the motion. Steve Paugh noted that there was an error in the newsletter concerning the election of officers. The ballots were counted on April 29, not May 29 as stated in the newsletter.

Treasurer Leslie Franzen gave the current balance of the chapter's bank account. Sustaining membership Chair Fred Sperry reported that WMTV and Roscor had renewed their sustaining memberships.

Leonard Charles gave the report on the activities of the national SBE. He reported that the SBE leadership Skills Course had been moved to September 23-25 from its original June date and that this would be the last one taught by Richard Cupka. He also noted that the SBE would be holding a RF Safety Course via the Web on Tuesday, May 20. Finally, Leonard announced that that he had been named as a SBE fellow.

Frequency Coordinator Tom Smith reported that there had been no activity concerning frequency coordination in the last month.

Program Chair Steve Paugh asked if there was any interest in joining the Technical Club in a tour of the Argonne National Lab. He noted that there was a \$40 per person fee with a minimum fee for a group of \$1,200. There was little interest in going, so it was decided that the chapter would pass on the tour. Steve announced that the next meeting would be on June 11 and would be the annual picnic at Badger Prairie County Park. The July meeting would be the second part of Steve's loudspeaker presentation, and the August meeting would be a tour of Wisconsin Public Radio.

Steve Paugh also announced that we needed to find a new location to copy and fold the newsletter as Steve Zimmerman was leaving WKOW. We discussed if we should continue to do a print version or convert to an e-mail version of the newsletter. It was decided to continue the print version and look for a new location to put together the newsletter.

Secretary Tom Smith announced that he would not be able to attend the next meeting and asked for someone to take the minutes of the June meeting.

Leonard Charles noted the FCC had asked if the TV stations in the Madison market were willing to make the DTV transition early as a test market. The management of the Madison stations turned down the FCC offer. We discussed other ideas to simulate the analog shutdown as a test of the impact of the actual shutdown next February.

There was no other old or new business, so the meeting was adjourned and we proceeded with the evening's program. The program was presented by David Buck and Mark Sharp of Harris and was on the NetVX video digital video encoder and a discussion of DTV transition issues.

*Respectfully submitted by
Tom Smith, Secretary*

July '08**SBE Chapter 24 newsletter**

Copy deadline: Sunday, July 6
Folding party: Wednesday, July 9



E-mail submissions to John Salzwedel at
john@tokencreek.com.

DTV tests >>> continued from the cover

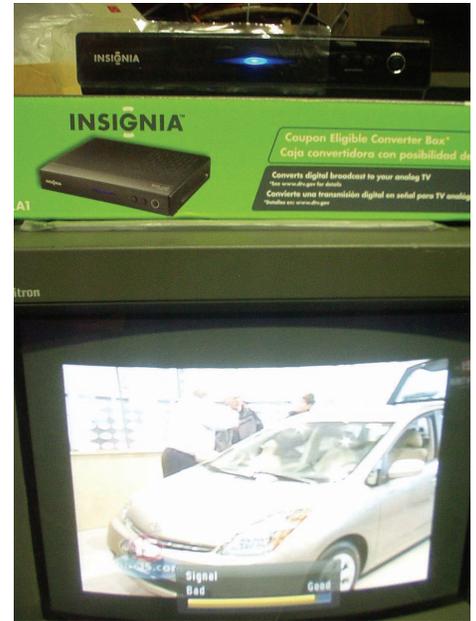
The most obvious thing noted was that the Zenith and Insignia boxes were identical except for the logo. So we expected to see those two receivers perform identically. But as we manipulated the "rabbit-ear" test antenna, all three receivers tended to fall off the digital cliff at the same time. It's possible that the RF sections and demodulators are all using the same generation of electronics and chipsets.



Magnavox TB100MW9



Zenith DTT900



Insignia NS-DXA1

All three converter boxes defaulted to channel 3 on their RF outputs. Although this won't be a problem after 2/17/09, if you're trying to set up one of these converters into the RF input of a TV set today, you may have trouble within a few miles of WISC-TV. The Magnavox will switch to channel 4 output by holding down the SETUP button on the remote for 3 seconds. On the Zenith/Insignia you need to drill into the menus (which you may not be able to see if you're getting ingress from Channel 3).

None of the three converters purchased locally have analog

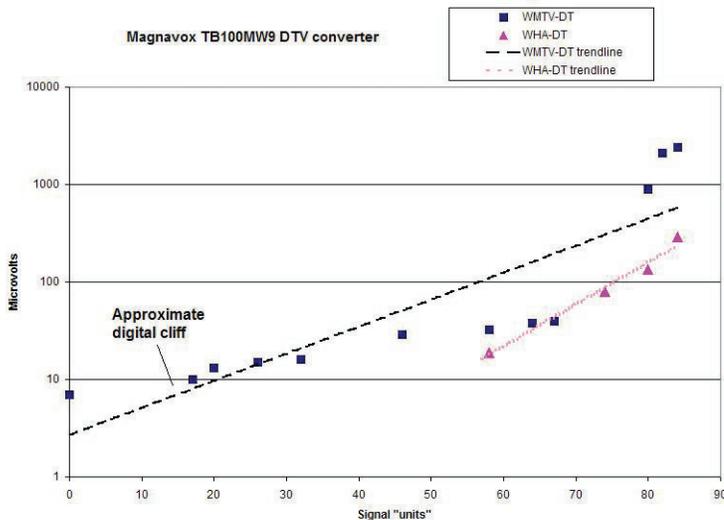
pass-through.

Using a variable attenuator on the antenna before it hit the splitter, we compared the numerical signal reading of the Magnavox with the measured level on a Tektronix 2710 spectrum analyzer in microvolts. (The Zenith and Insignia receivers use a bar graph with audio tones to aid in peaking the antenna, but no number readout.) The Magnavox receiver tended to give up at around 7-10 microvolts, but this was difficult to reproduce exactly since the test bed was only about 100 feet from the WMTV-DT transmitter and we were likely getting some ingress into the test setup.

Since our receive antenna was almost directly below the WMTV-DT transmit antenna (in the null), we also took a few readings on adjacent-channel WHA-DT, about 3 miles away. The signal levels in microvolts were measured at the center of the channel using a 16-count average. The graph below shows the results.

With essentially no difference in signal performance, the decision of which converter to buy comes down to price and user interface preferences. The major difference on the units we tested is that the Zenith/Insignia receivers include a volume control on the remote.

We replaced the Insignia receiver on the test bed with an older Digital Stream HD3150 DTV receiver which we use to monitor our air signal at WMTV. Compared to the newer receivers, it was subject to many more signal dropouts as the antenna was rotated. So the performance of newer converters is encouraging.



Amateur Radio News

compiled by Tom Weeden, WJ9H

Hams provide vital links

As disaster recovery efforts continue following the earthquake in the Wenchuan area of China's Sichuan province on May 12, China's Information Office of the State Council reports that the death toll has reached more than 67,000 persons as of May 27. Communications in some of the surrounding areas were cut off, and communications in some other areas experienced network congestion due to drastically increased traffic. According to the Chinese Radio Sports Association (CRSA), Chinese government officials and the news media have recognized that when communications failed after the earthquake, Amateur Radio operators stepped in to provide vital links.

U.S. amateurs have also been in the news recently, assisting with emergency communications after tornadoes in Windsor, Colorado, and wildfires in Brevard County, Florida.

ARRL files 2 comments

The American Radio Relay League has filed comments concerning two matters that the FCC has under consideration. The first set of comments concerns a company that filed a request for a waiver of Part 90 of the FCC rules; ReconRobotics, an electronics manufacturer, wishes to sell to public safety customers a robotic device that operates in the 430-448 MHz band. The primary allocation in that portion of the spectrum is United States government radiolocation (military radars).

The Amateur Service has an allocation on a secondary basis. The second matter deals with GE Healthcare and their request for allocation of spectrum (as a sec-



ondary user) in the 2300 MHz band; the Amateur Service has a primary allocation in a portion of the requested band.

ARRL's comments regarding ReconRobotics stated, "The Amateur Service, which has a heavily occupied, secondary allocation in the 420-450 MHz band... would be potentially substantially impacted by grant of these waivers... Repeaters in this band are routinely used for emergency communications via amateur Radio for numerous served agencies including FEMA, and so at times when [ReconRobotics's] device may be expected to be used, the repeaters may be expected to be in operation in the same areas."

In response to a Notice of Inquiry (NOI) in a pending "MedRadio" proceeding, GE Healthcare proposed that the band 2360-2400 MHz be allocated on a secondary basis for "Body Sensor Networks" (BSNs). These systems are apparently to be used for wireless patient monitoring. They are very short-range networks consisting of multiple body-worn sensors and nodes, connected via wireless to nearby hub stations at medical facilities and in homes. The Amateur Radio Service is currently allocated 2390-2400 MHz on a primary basis.

ARRL said, "The ramifications of radiofrequency interference (RFI) to these systems in terms of danger to medical patients are obvious, and potentially severe." The ARRL contends "that the potential for interference from Amateur Radio operations, which are in this band occasionally itinerant and mobile, but most often fixed in residential areas, to BSNs operated at a patient's residence would be... a problem." In light of the possibilities of harmful interference, the ARRL requested that the FCC "not proceed with the proposal of GE Healthcare as proposed in the 2390-2400 MHz band."

Excerpts from the American Radio Relay League's Web site, arrl.org

Come one, come all!

map to the SBE Chapter 24 picnic



Badger Prairie Park in Verona. Everyone is welcome — bring a friend and a dish to pass.



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Chapter 24 needs you!

From the Chair

Dennis Baldrige



The election results are in, the new officers are installed and we are ready for another year — or are we? There is something that continually astounds me about our chapter. It is that there are a number of faithful and dedicated members who see to it that the jobs get done. Often they have been involved for years and yet they continue to believe in the chapter and its mission, silently serving selflessly.

On the other hand, why does it seem, at least at times, that only a handful of people do a majority of the work in any organization? This has been the lament of volunteer organizations for years. Yes, time is at a premium for us all, but when we make the effort to help others, we benefit as well. We have the opportunity to make our SBE Chapter more productive and encourage our fellow members. Thomas Edison said, "Opportunity is missed by most because it is dressed in overalls and looks like work."

Do you think that you are not qualified to fill a certain position or that you won't succeed? Our members are among the most talented in the nation. All it takes is willingness, a desire to help others. For success, attitude is equally as important as ability.

There are many ways to serve the chapter. Some jobs are higher profile and require a bit more commitment while others are less demanding and supplement another's input. The important thing to remember is that "There are no menial jobs, only menial attitudes. (William Bennett)." When everyone gives a little, much is accomplished.

This next year, if SBE Chapter 24 is going to continue to be one of the most progressive and best chapters in the nation, we need members to attend, attendees to participate and participants to lead. Begin thinking now about stepping up to bat: some role of leadership or participation in which you can become an active part of SBE Chapter 24. Our Chapter's future depends on it.

Opportunity is missed by most because it is dressed in overalls and looks like work.

—Thomas Edison

SBE awards nominations deadline extended

The deadline to submit nominations for the SBE National Awards has been extended to June 13th.

SBE encourages members to recognize those in your chapter who have distinguished themselves through outstanding service or achievement. There are 11 categories for individual and chapter awards, including the prestigious "SBE Broadcast Engineer of the Year" and "SBE Educator of the Year" awards. Nomination forms are available at the SBE Web site, in the April issue of the Signal or from the National Office. For more information, contact Megan Clappe at the National Office, mclappe@sbe.org or Awards Committee Chairman, Larry Wilkins at larrywilkins@charter.net.



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FCC extends 2 GHz BAS/LTTS transition date

By Chris Imlay, FCC Liaison Committee Chair and SBE General Counsel

SBE is well-aware that broadcast engineers are typically responsible for broadcast auxiliary operations (BAS), and that 2 GHz TV BAS service is at the heart of local news, sports and weather coverage that are the essence of broadcast localism.

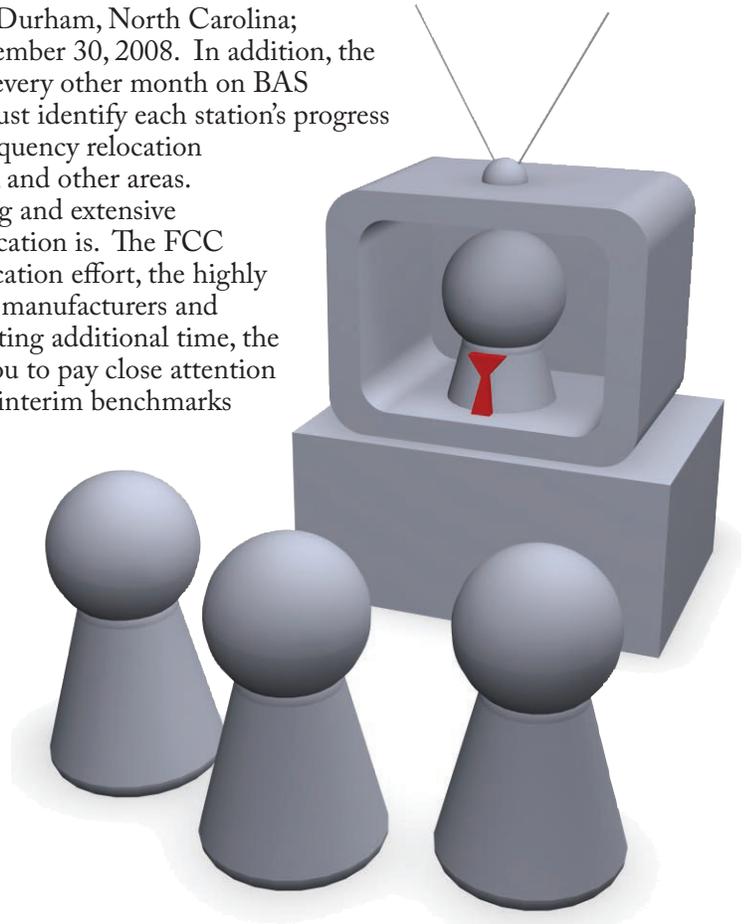
Recently, SBE, Sprint Nextel, NAB and MSTV achieved a major victory for BAS licensees across the country by convincing the FCC to recognize the inordinate complexity of reconfiguring BAS systems and extend the deadline for Sprint Nextel to relocate BAS licensees to spectrum between 2025 and 2110 MHz until March 5, 2009. The FCC also stated that it might extend the deadline until August 2009 so long as all parties continue to work in good faith to move BAS above 2025 MHz as expeditiously as possible.

This decision is extremely good news. The BAS transition has not proceeded as quickly as we would like, despite good faith by licensees, Sprint Nextel, manufacturers and systems integrators. The short extension will give broadcasters, manufacturers and Sprint Nextel the time they need to produce, integrate and install new equipment in local markets across the country.

But neither the BAS licensees, nor Sprint Nextel can take the additional time for granted. The FCC has sought comment on whether and how to allow MSS and MSS ATC operations to commence nationwide regardless of whether the transition is complete beginning January 1, 2009. To allow mobile-satellite service licensees to enter the 2000-2020 MHz band this year, moreover, the FCC has required Sprint Nextel to transition four additional market clusters – Salt Lake City, Utah; Raleigh-Durham, North Carolina; Washington, DC; and Houston, Texas – no later than September 30, 2008. In addition, the FCC required Sprint Nextel to file station-specific reports every other month on BAS relocation progress beginning April 1, 2008. The reports must identify each station's progress in obtaining price quotes for BAS equipment, finalizing frequency relocation agreements with Sprint Nextel, submitting purchase orders, and other areas.

The FCC now knows, thanks to the joint parties' ongoing and extensive lobbying efforts at the FCC, how challenging the BAS relocation is. The FCC has acknowledged the unanticipated complexity of the relocation effort, the highly specialized equipment, and the limited number of qualified manufacturers and installers. While the FCC has done the right thing in granting additional time, the agency's patience will not last forever. Therefore, we urge you to pay close attention to the cut-over schedule and make every effort to meet the interim benchmarks for relocation performance leading up to the anticipated relocation weekend in your market.

If problems arise, contact your market's frequency coordinator, SBE, and/or the local market's Sprint Nextel representative, before issues can contribute to delay. Working together, we will complete a smooth BAS relocation.



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SBE Chapter of the Air

HamNet meets the second Sunday of each month at 0000 GMT on 14.205 MHz. Hal Hostetter WA7BGX is the Control Station. Any amateur operator is welcome and encouraged to participate.

Using the SBE logo

SBE chapters and members may use the SBE logo on business cards, letterhead and chapter newsletters. When referring to a chapter, it must be used with that chapter's name or number adjacent to the logo. Members must put "Member of" or "Certified by" adjacent to the logo.

The proper logo must be used in any case. The correct logo can be obtained only through the SBE National Office. Send your request to Angel Bates at abates@sbe.org.

Certification Exam Session Dates

The SBE National Certification Committee has announced exam session dates. Check the list below for the exam period that is best for you. For more information about SBE Certification, see your Chapter Certification Chair or contact Megan Clappe, Certification Director at the SBE National Office at (317) 846-9000, or mclappe@sbe.org.

Exam Dates	Location Application	Application Deadline
August 8-18, 2008	Local Chapters	June 6, 2008
November 7-17, 2008	Local Chapters	September 19, 2008

CHAPTER 24 SUSTAINING MEMBERS

RECENT RENEWALS

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Thanks to WISC-TV for maintaining the Web server for the Chapter 24 Web page and for providing copying and folding facilities for the newsletter.



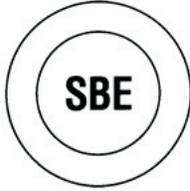
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